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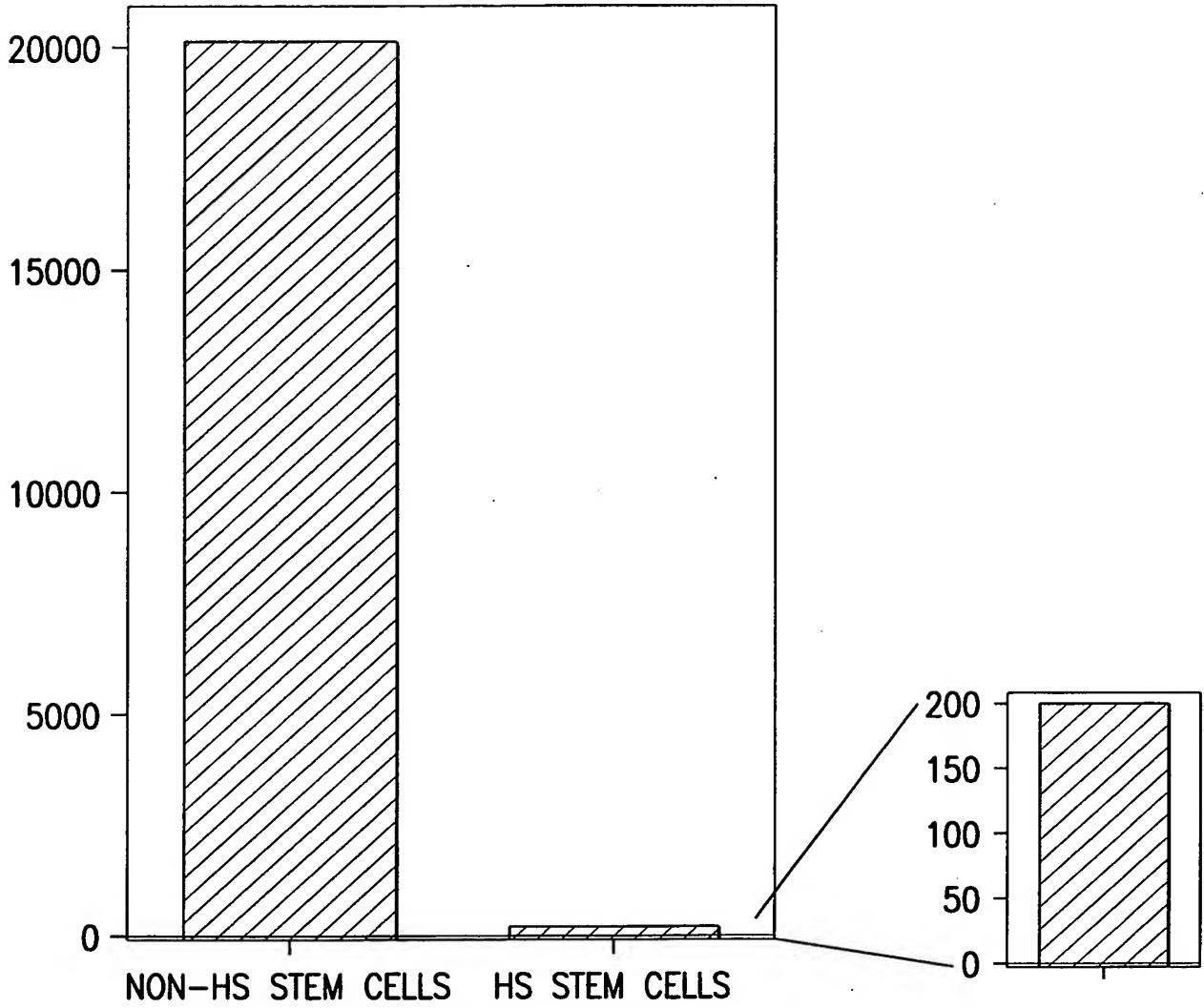


FIG.1

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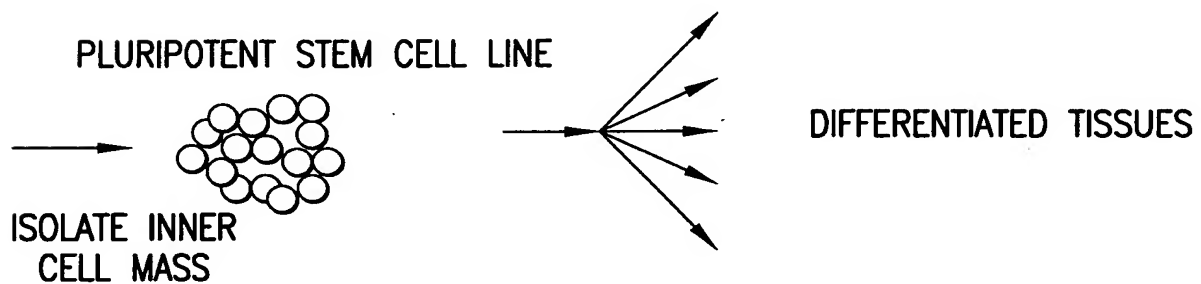
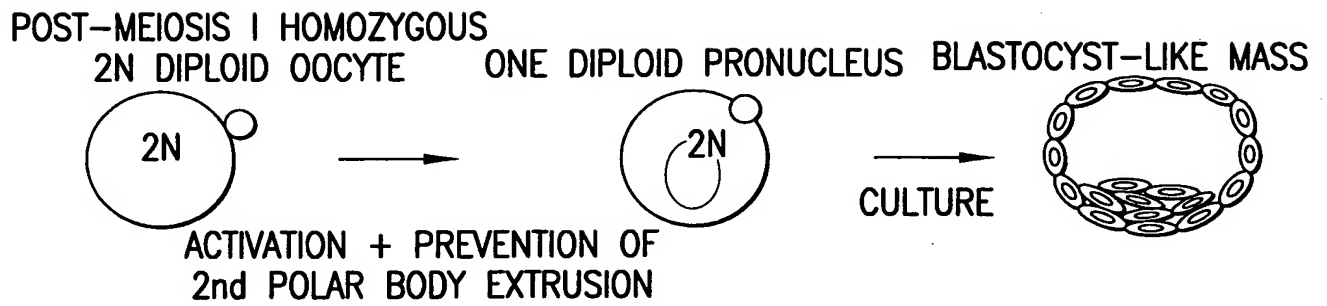


FIG.2

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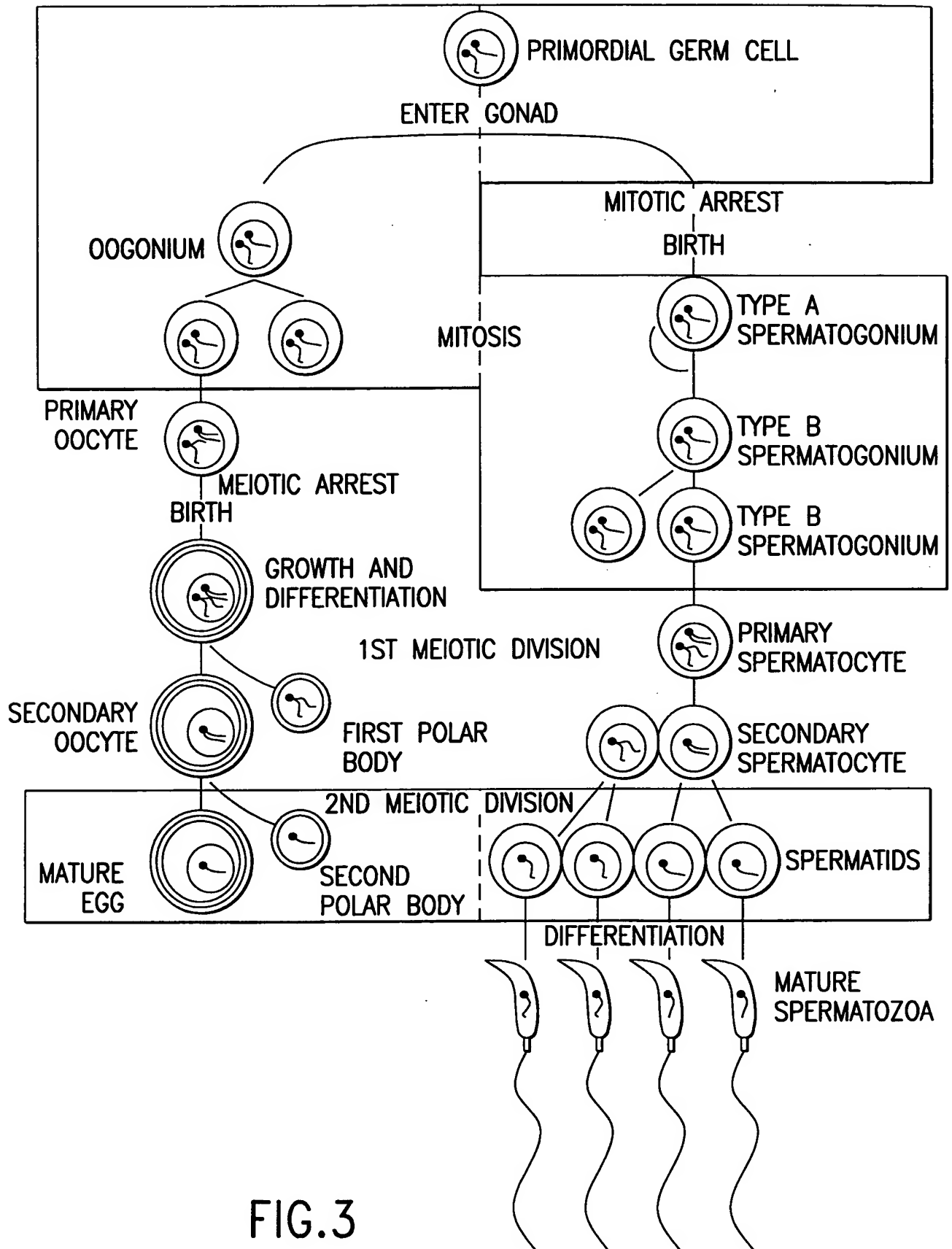


FIG.3

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Serological Specificities of the HLA-A, -B, and -C Loci

A locus	B locus	C locus
A1 ^a	B5	B50(21) ^a
A2 ^a	B7 ^a	B51(5) ^a
A203	B703	B5102
A210	B8 ^a	B5103
A3 ^a	B12	B52(5) ^a
A9	B13 ^a	B53 ^a
A10	B14 ^a	B54(22)
A11 ^a	B15	B55(22) ^a
A19	B16	B56(22) ^a
A23(9) ^a	B17	B57(17) ^a
A24(9) ^a	B18 ^a	B58(17) ^a
A2403	B21	B59
A25(10) ^a	B22	B60(40) ^a
A26(10) ^a	B27 ^a	B61(40) ^a
A28	B35 ^a	B62(15) ^a
A29(19) ^a	B37 ^a	B63(15) ^a
A30(19) ^a	B38(16) ^a	B64(14) ^a
A31(19) ^a	B39(16) ^a	B65(14) ^a
A32(19) ^a	B3901(16)	B67
A33(19) ^a	B3902(16)	B70 ^a
A34(10) ^a	B40	B71(70) ^a
A36	B4005	B72(70) ^a
A43	B41 ^a	B73
A66	B42 ^a	B75(15)
A68(28) ^a	B44(12) ^a	B76(15)
A69(28) ^a	B45(12) ^a	B77(15)
A74(19)	B46	B7801
	B47 ^a	Bw4 ^a
	B48	Bw6 ^a
	B49(21) ^a	

^a Serological specificities to be included in a screening panel.

FIG.4A

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Officially Recognized HLA-DR and HLA-DQ,
Specificities 1992³

DR1	DQ1
DR103	DQ2
DR2	DQ3
DR3	DQ4
DR4	DQ5(1)
DR5	DQ6(1)
DR6	DQ7(3)
DR7	DQ8(3)
DR8	
DR9	
DR10	
DR11(5)	
DR12(5)	
DR13(6)	
DR14(6)	
DR1403	
DR1404	
DR15(2)	
DR16(2)	
DR17(3)	
DR18(3)	
DR51	
DR52	
DR53	

(N) = the broad HLA-DR or HLA-DQ specificity

FIG.4B

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Restriction Endonucleases for Genotyping of DQA1, DQB1, DRB1, DRB3, DRB5, DPA1, and DPB1 Alleles

Allele	Antigen	Restriction endonucleases
DQA1		<i>Apa</i> I, <i>Hph</i> I, <i>Bsa</i> JI, <i>Fok</i> I, <i>Mbo</i> II, <i>Mn</i> II
DQB1	DQw1	<i>Fok</i> I, <i>Apa</i> I, <i>Hae</i> II, <i>Sfa</i> NI, <i>Bss</i> HII, <i>Hph</i> I
	DQw2,3,4	<i>Fok</i> I, <i>Bgl</i> I, <i>Sac</i> I, <i>Acy</i> I, <i>Hpa</i> II
DRB1	DR1	<i>Ava</i> II, <i>Pst</i> I
	DR2	<i>Fok</i> I, <i>Cfr</i> 13I, <i>Hph</i> I
	DR3,5,6,8	<i>Ava</i> II, <i>Fok</i> I, <i>Kpn</i> I, <i>Hae</i> II, <i>Cfr</i> 13I, <i>Sfa</i> NI, <i>Sac</i> II, <i>Bsa</i> JI, <i>Apa</i> I, <i>Hph</i> I, <i>Rsa</i> I
	DR4	<i>Sac</i> II, <i>Ava</i> II, <i>Hinf</i> I, <i>Hae</i> II, <i>Hph</i> I, <i>Mn</i> II
DRB3		<i>Hinf</i> I, <i>Kpn</i> I, <i>Hph</i> I
DRB5		<i>Sfa</i> NI, <i>Cfr</i> 13I
DPA1		<i>Alu</i> I, <i>Acy</i> I, <i>Mbo</i> II
DPB1		<i>Bsp</i> 1286I, <i>Fok</i> I, <i>Dde</i> I, <i>Bsa</i> JI, <i>Bss</i> HII, <i>Cfr</i> 13I, <i>Rsa</i> I, <i>Eco</i> NI, <i>Ava</i> II

FIG.5

List of SSOs for HLA Class II Oligotyping

SSO Probes for HLA-DR Generic Typing

	Oligo seq 5' - 3'	AA	Specificity
L11	TTCAAACTTAAGCTGCCAC	9-14	DR1
D11	CTCATACTTATCCTGTGC	9-14	DR2
N77	TCTGCAGTAGTTGTCCACC	75-80	DR3
H33	CTCTTGGTGATAGAGTATC	29-53	DR4
E58	CCAGTACTCCTCATCAGGC	56-61	DR11
L37	AGCGCAGGAGCTCCTCCTG	34-39	DR12
G11	CTTATACTTACCCCTGCCAC	9-14	DR7
L74	GTGTCCACCAGGGCCCGCC	71-77	DRS (+1403)
Y26	CTGTGCAGATACCGCACCC	23-29	DR9
V11	CTCAAACTTAACCTCCTCC	9-14	DR10
E71	GGCCCGCTCGTCTTCCAGG	68-73	DR13 (1301, 1302, 1304)
			DR1 (0103)
			DR4 (0402, 0414)
			DR11 (1102, 03)
K71	CGGCCCGCTTGCTTCCAG	68-73	DR13-HAG (1303)
H60	GTTCCAGTGCTCCGCAGCA	57-62	DR14 (1401, 04, 07)
N37	AGCGCACGTTCTCCTCCTG	34-39	DR3
			DR13 (1301, 02, 04, 06)
			DR14 (1402, 03, 06)
D37	GAAGCGCAAGTCTCCTCTCT	34-40	DR2 (DRB5*0101)
AV86	GCTCTCCACAGCCCCGTAG	83-88	DR2 (DRB5*02)
			DR1 (0102)
			DR12

FIG.6A

SSO Probes for the Analysis of DRB1, DRB3, DRB5 Subtypes

	Oligo seq 5' - 3'	AA	Specificity
G13	ACACTCACCCGTAGAGTAC	9-14	0801-0805, 1105, 1201, 1202, 1404
H30-2	ATAGAAGTGTCTGTCCAGG	27-32	1503
N37	AGCGACGTTCTCCTCCTG	34-39	0301, -02, 1301, 1302, 1305, 1306, 1402, 1403, 1406
S37	AGCGACGGACTCCTCTTG	34-39	0406
S57	GCCTAGCGCCGAGTACTG	56-61	0405, 0409 - 0412, 0801, 0803, 0805, 1303, 1304
H60	GTTCAGTGTCCGCAGCA	57-62	1401, 1404, 1407
F67	CTTCCAGGAAGTCTTCTG	64-69	1601, 1101, 1103 - 1105, 1202, 1305
I67	CTTCCAGGATGCTTCTG	64-69	0803, 1102, 1201, 1301 - 1304, 1306, 0412
I67-2	ACATCTGGAAGACGAGC	66-71	0103, 0402, 0414, 1102, 1301, 1302, 1304
E71	GGCCCGCTCGTCTTCCAGG	68-73	0103, 0402, 0414, 1102, 1103, 1301, 1302, 1304
K71	CGGCCCGCTTGTCTTCCAG	68-73	1303
QK71	CGGCCCGCTTCTGCTCGAC	68-73	0401, 0409, 0413
QR71	CCGGGGCCCGCCTCTGCTC	69-74	0404, 0405, 0408, 0410 - 0411
QR71-2	CGGCCCGCCTCTGCTCCAG	68-73	0101, 0102, 0403 - 0408, 0410, 0411, 1402, 1406
R71	GGCCCGCCTGTCTTCCAGG	68-73	1101, 1104, 1105, 1305, 1306, 0801 - 0805, 1403, 0412
R71-2	CCGGGGCGCCCTGTCTTC	69-74	1601, 1602, DRB5*0101, 0102
RR71	AGCGGAGGGGGCCGAGG	69-74	1401, 1404, 1405, 1407 (DRB*0101)
E74	GTGTCCACCTCGGCCCGCC	71-77	0403, 0406, 0407, 0411, 1404, 1405, 1407
L74	GTGTCCACAGGGCCCGCC	71-77	0801 - 0805, 1403, 0412
V86	AACTACGGGTTGTGGAG	82-87	Val86
G86	AACTACGGGTTGGTGAG	82-87	Gly86
AV86	GCTCTCCACAGCCCCGTAG	83-88	0102, 1201, 1202
			DRB5*02

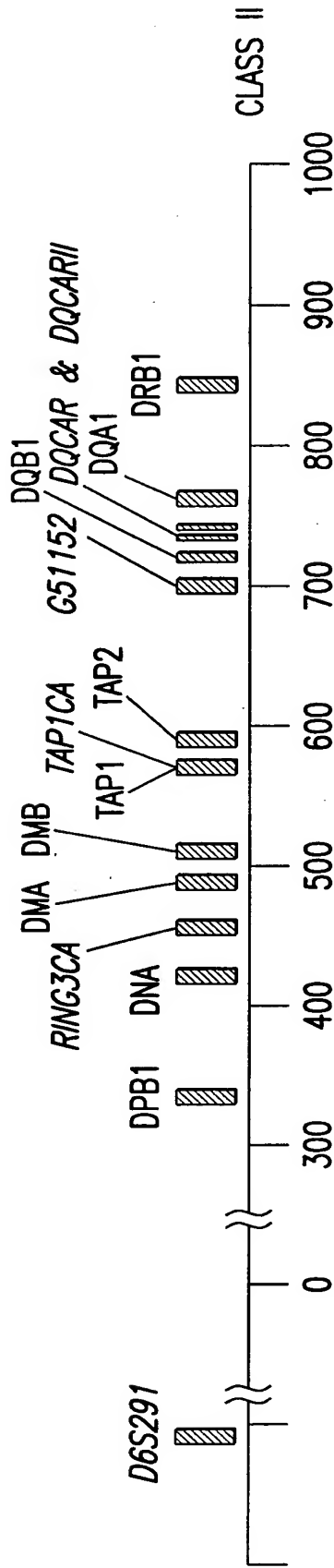
FIG.6B

Locus	5' Primer sequence	3' Primer sequence
D6S276	5-tcaatcaaatcatccccagaag	5-ccttctttgcagactgtcacc
D6S105	5-gggattacaggcaggagccac	5-gaaggagaattgtaattccg
MOGCA	5-gaaatgtgagaataaaggaga	5-gataaaggggaactactaca
D6S265	5-agtcaccctactgtgctatc	5-atcgaggtaaacagcagaaaag
MIB	5-gcttcacccgatcagtagaagac	5-gcatggtgtcagagatagtcaggtc
D6S275	5-ggagaagttgagtattttctgc	5-accaaaacttcaaattttcgg
DQCAR11	5-gcactatcattaaatttgctttccacagtac	5-tgattcataaggcaagaatccagcatattgg
DQCAR	5-gaaacatatattaacagagacagacaaa	5-catttctcttcttatcacttcata
G51152	5-ggtaaaattcctgactggcc	5-gacagctcttcttaacctgc
TAP1CA	5-gctttgatctccccctc	5-ggacaataatttgctccttgagg
RING3CA	5-tgcttataggagactaccg	5-gaggtaatgtcacaggatggg
D6S291	5-ggcattcaggcatgcctggc	5-ggggatgacgaattattcactaact

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FIG.7

2001901 56 45001



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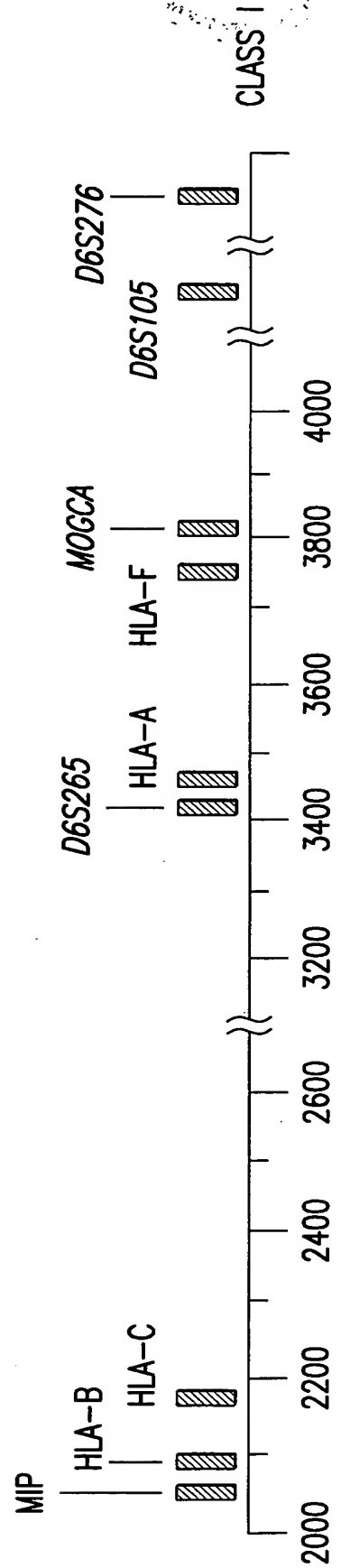
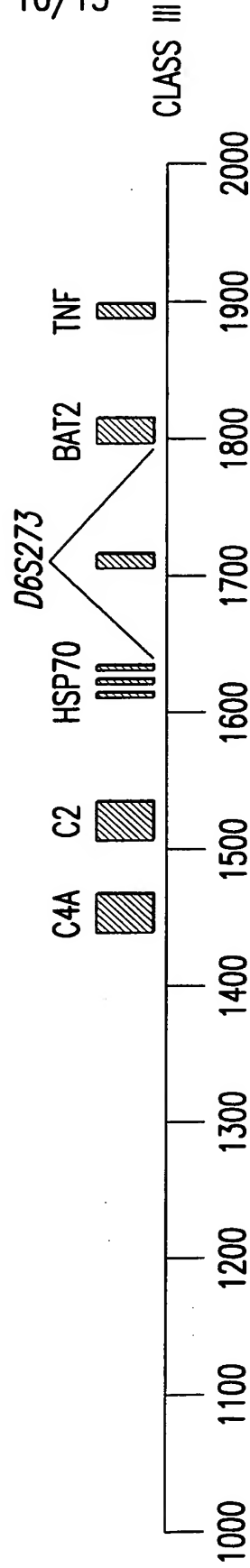


FIG.8

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FIG. 9A

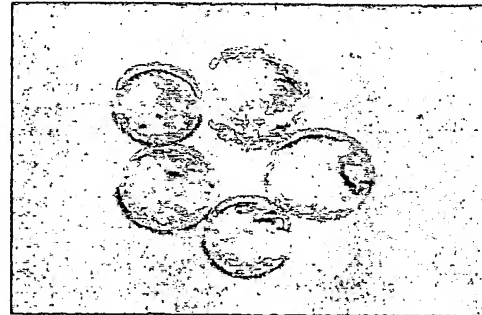


FIG. 9B

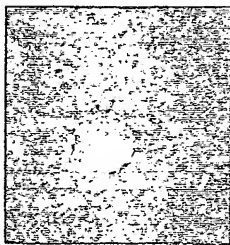


FIG. 9C

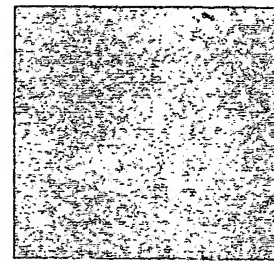


FIG. 9D

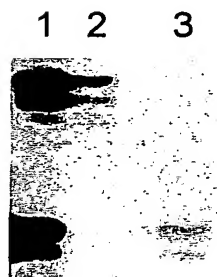


FIG. 9E

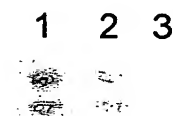


FIG. 9F

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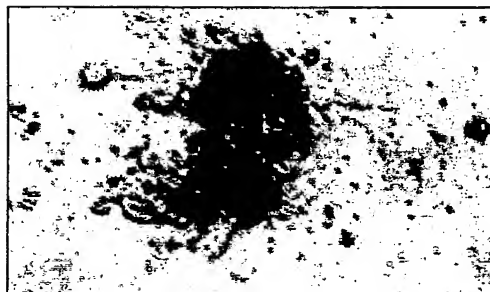


FIG. 10A

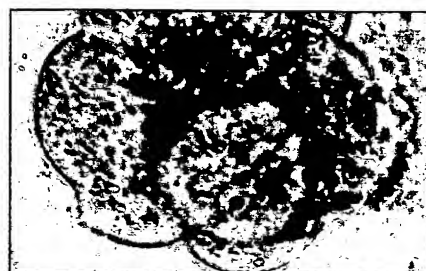


FIG. 10B



FIG. 10C



FIG. 10D

1003205 . 061002

100

FIG. 11